



41P15NE8361 19 CAIRO

010

DIAMOND DRILLING

TOWNSHIP: CAIRO

REPORT NO:19

WORK PERFORMED FOR: North Expo Mines Ltd.

RECORDED HOLDER: Same as Above [ ]  
: Other [xx] George Sunisloe

<u>Claim No.</u>	<u>Hole No.</u>	<u>Footage</u>	<u>Date</u>	<u>Note</u>
MR 39477	1	305'	Mar-Apr/66	(1)(2)
	2	280'	Mar-Apr/66	(1)(2)
	3	416'	Mar-Apr/66	(1)(2)

NOTES: (1) Drill dates for individual holes not given - only dates for the program of 3 holes  
(2) Material received from Mining Recorder - cancelled claims - placed on file May/88.



41P15NE8361 19 CAIRO

020

NORTH EXPO MINES LIMITED

**Report on Diamond Drilling**

**Cairo Township, Montreal River Mining Division, Ontario**



41P15NE8361 19 CAIRO

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TABLE OF CONTENTS

	Page
Property, Location, Access	1.
Geology	1.
History	2.
Diamond Drill Data	3.
Drill Results	3.
Conclusions	4.
Recommendations	5.
Drill logs	
Location Map	
Certificate	

NORTH EXPO MINES LIMITED,  
Suite 305-100 Adelaide St. West,  
Toronto 1, Ont.

Gentlemen:

This report covers results of a diamond drill program recently completed on your Cairo township holdings, Matachewan area, Ontario.

PROPERTY: LOCATION: ACCESS:

The claim group, all contiguous and comprising approximately 440 acres, consists of the following claims: MR. 30884, MR. 37915-917, MR. 39476-477, MR. 40562-565, and MR. 41675, all inclusive.

The property is located in the southwest sector of Cairo township about one mile east of the old mining community of Matachewan, Ontario. Highway No. 66, between Matachewan and Kirkland Lake, is located a few hundred feet north of the Montreal River which forms a part of the property.

GEOLOGY:

Generally, Keewatin volcanic flows are the most

abundant rock types in the Matachewan area, and two parallel east-trending synclines are formed by Timiskaming sediments in Cairo and adjacent Powell townships. These rocks are intruded by Algonian igneous rocks consisting of syenite and granite which, in turn, have been intruded by north-trending diabase dikes. The flat-lying Cobalt Conglomerate lies with marked unconformity upon Precambrian formations.

Government maps indicate that the northern one-third of the property is underlain by Keewatin tuff, agglomerate, and andesite in contact with granite occupying the remaining portion of the property. Field investigation shows that this contact is likely further south than indicated.

Shear zones in the Keewatin flows and pyroclastic rocks on the property contain mineralization consisting essentially of pyrite, pyrrhotite, and chalcopyrite, as well as iron formation. These zones dip almost vertically.

#### HISTORY:

In the Fall of 1965, Rosmar Corp. Ltd. conducted a limited amount of self-potential work over claims MR. 30884, 39477, and portions of MR. 39475 and 39476. An anomalous condition 700 ft. long, 150 ft. wide was recorded as well as a higher intensity zone, not delimited, both in claim MR. 39477.

On the basis of the above work, North Expo Mines Ltd. acquired the property on option and located two test pits on the large anomaly one of which revealed copper mineralization

associated with pyrite. Recommendation was made by the writer to further test the anomalous zones by diamond drilling.

In the early part of 1966, a combined magnetic-electromagnetic survey was done over water portions of the property. No conductive zones were encountered in this survey.

DIAMOND DRILL DATA:

In the drill program, which commenced March 14th last and terminated April 5th, two holes tested the large anomalous zone while one hole investigated the anomaly located in the northeast corner of claim MR. 39477.

<u>HOLE NO</u>	<u>LOCATION</u>	<u>DIRECTION</u>	<u>DIP</u>	<u>DEPTH (ft.)</u>
1.	950 ft. south, 900 ft. west of No. 1 post for claim No. MR. 39477.	180°Az.	40°	305
2.	910 ft. south, 700 ft. west of No. 1 post for claim No. MR. 39477.	180°Az.	38°	280
3.	255 ft. south of No. 1 post for claim No. Mr. 39477	360°Az.	40°	416

Total footage:1,001

DRILL RESULTS:

Drill logs for each hole and assay results from samples tested are attached hereto and form a part of this report.

From hole 1, 13 sections totalling a combined

22.5 ft. were removed, split, and assayed for copper content, with the exception of one sample which was assayed for silver values. One of the 13 samples was assayed for nickel values, and five were subject to gold determinations.

Gold nor silver content in appreciable amounts were detected through assay means. In most cases, low grade copper values were returned. It is noteworthy that a combined section of five feet, from 233-238 ft., returned an average of 2.56% copper per ton, as determined from two assay values.

Drill hole No. 2, collared some 200 ft. east of No. 1 on the same anomalous condition, returned nil values in gold and low grade copper values. One section, from 90-100 ft., returned an average of 0.51% copper per ton as determined from results of four assay determinations.

Four sections were removed from drill hole No. 3, placed over the anomalous condition in the northeast portion of claim MR 39477, and returned low grade copper values and nil gold values.

CONCLUSIONS:

The results of diamond drilling a large anomalous condition in claim MR. 39477, as well as another higher intensity anomaly in the northeast sector of this claim, indicate that the self-potential anomalies are attributable to the combined electro-galvanic response of sulphide mineralization, chiefly pyrite and chalcopryrite, as well as a

contributing effect of iron formation of the non-magnetic variety. Sheared and chloritized andesite forms the host material for this mineralization.

A section of ore grade copper over mineable widths was encountered in hole No. 1 but, due to the nature of shearing in the andesite, this zone is non-continuous and was not intersected in hole No. 2 along strike.

RECOMMENDATIONS:

Insomuch that results of work to date prove the existence on the property of substantially large shear zones containing copper mineralization, it is recommended that those portions of the property not heretofore subject to geophysical coverage north of the granite-andesite contact be subject to a continuous-line self-potential survey on 200 ft. linespacings. This area would include claims MR. 39476, 40562, 40563, 40564, and 41675.

The estimated cost of this work, linecutting included, is \$2,700.00.

Respectfully submitted,



G.L. Kirwan, B.Sc.  
Consulting Geologist

GLK/lk

Toronto, Ont.  
April 22, 1966



# DIAMOND DRILL RECORD

Cairo

PROPERTY NORTH EXPO MINES LIMITED Township                      HOLE NO.                      ONE

SHEET NUMBER 1 of 3 SECTION FROM                      TO                      STARTED                       
 LATITUDE                      DATUM 950 ft. south, 900 ft. west COMPLETED                       
 DEPARTURE                      BEARING 180° Az. ULTIMATE DEPTH 305 ft.  
 ELEVATION                      DIP 40° PROPOSED DEPTH                     

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	-GOLD & Copper	SLUDGE GOLD \$
0 - 16	casing				
16-50	ANDESITE: Massive, olive green, some calcite stringers up to ½ inch in width. Dip angle 70° to core axis. Sample from 45-47½ ft. From 45-50 ft. evidence of iron formation containing copper sulphide (chalcopyrite) as blebs and verry narrow stringers in andesite.	1-1	2.5 ft.	0.80	
50-100	ANDESITE: Generally massive, some evidence of shearing, dark olive green as above. Sample 93-94 ft. in one foot quartz-calcite vein. 93 ft.-100 ft. some iron formation containing about 10% iron and copper sulphides. Sample from 95-97 ft.	1-2 1-3	(nil silver) 2.0 ft.	 1.10	 (Ni. nil, Au nil)
100-125	ANDESITE: Generally massive, Some iron formation throughout in stringers up to 8 inches wide. From 100 ft.				

# DIAMOND DRILL RECORD

Cairo

PROPERTY NORTH EXPO MINES LIMITED Township                      HOLE NO. ONE (Cont'd)

SHEET NUMBER 2 of 3 SECTION FROM                      TO                      STARTED                       
 LATITUDE                      DATUM                      COMPLETED                       
 DEPARTURE                      BEARING                      ULTIMATE DEPTH                       
 ELEVATION                      DIP                      PROPOSED DEPTH                     

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD'S COPPER	SLUDGE GOLD'S
	104 ft. contains 10% disseminated pyrite.				
125-175	GABBRO; Massive (No evidence of alteration) Very dark green				
175-225	ANDESITE; Generally massive but some evidence of alteration assoc. with shearing. Some iron formation from 175-200 ft.				
225-275	ANDESITE; Schistose and chloritized; fracturing and shearing. Alterations. Quartz and calcite veins				
	From 230-245 ft., considerable evidence of sulphide mineralization including copper and iron	1-4-c	1 ft.	tr.	(230-231)
		1-4-b	1 ft.	0.02	(231-232)
		1-4-a	1 ft.	0.03	(232-233)
	233-235	1-4	2 ft.	4.38	(nil Au.)
	235-238	1-5	3 ft.	0.75	(nil Au.)
	238-240	1-5-a	2 ft.	0.12	(nil Au.)
	240-241½	1-5-b	1.5 ft.	0.05	
	241½-243	1-5-c	1.5 ft.	0.03	
	243-245	1-5-d	2 ft.	tr.	
	Iron Form. 235-238; 241-244				

DRILLED BY Inspiration Drilling Co. Ltd.

SIGNED *G. L. L...*



# DIAMOND DRILL RECORD

Cairo

PROPERTY NORTH EXPO MINES LIMITED Township                      HOLE NO. 2

SHEET NUMBER 1 of 2 SECTION FROM                      TO                      STARTED                       
 LATITUDE                      DATUM 910 ft. south, 700 ft. west  
from No 1 post MR. 39477 COMPLETED                       
 DEPARTURE                      BEARING 180° Az. ULTIMATE DEPTH 280 ft.  
 ELEVATION                      DIP 38° at 250 ft. PROPOSED DEPTH                     

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD & Copper	SLUDGE GOLD &
0 - 8	CASING				
8 - 75	ANDESITE: Massive, dark green. Iron formation up to 10% assoc. with with more siliceous sections. Some calcite stringers up to 3 inches wide. Dip angle 70° to core axis.				
75-100	ANDESITE: Sheared and altered. Blebs and stringers of chalcopyrite. Chloritized and sheared with copper mineralization from 90-100 ft. Sample from 90-92½ ft.	2-1	2.5	0.80	(Nil Au.)
		92½-95 ft. 2-2	2.5	0.12	(Nil Au.)
		95-97½ ft. 2-3	2.5	0.90	(Nil Au.)
		97½-100 ft. 2-4	2.5	0.23	(Nil Au.)
100-175	ANDESITE: Massive with some minor shearing. Quartz vein 100-102 ft. 125-127 10% iron sulphides. Iron formation forms up to 10% of core. Copper min. 154-155½, sample.	2-5	1.5	0.85	(Nil Au.)

N.M.P., TORONTO—STOCK FORM No. 501 REV. 12/51

DRILLED BY Inspiration Drilling Co. Ltd.

SIGNED [Signature]

# DIAMOND DRILL RECORD

PROPERTY NORTH EXPO MINES LIMITED      Calro  
Township      HOLE NO. 2

SHEET NUMBER 2 of 2      SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_      STARTED \_\_\_\_\_  
 LATITUDE \_\_\_\_\_      DATUM \_\_\_\_\_      COMPLETED \_\_\_\_\_  
 DEPARTURE \_\_\_\_\_      BEARING \_\_\_\_\_      ULTIMATE DEPTH \_\_\_\_\_  
 ELEVATION \_\_\_\_\_      DIP \_\_\_\_\_      PROPOSED DEPTH \_\_\_\_\_

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD \$	BLUDGE GOLD \$
175- 190	GABBRO: Dark green, even textured				
190- 200	ANDESITE: Slightly mineralized (Up to 5%) with iron pyrite and iron form.				
200-280(end)	ANDESITE: Generally massive with small sections showing shearing. Iron formation throughout up to 15% of core. Sections slightly mineralized with iron pyrite up to 10% of core.				

N.M.P., TORONTO—STOCK FORM NO. 501 REV. 12/51

DRILLED BY Inspiration Drilling Co. Ltd.

SIGNED *G. J. Keenan*

# DIAMOND DRILL RECORD

PROPERTY NORTH EXPO MINES LIMITED

HOLE NO. 3

SHEET NUMBER 1 of 2

SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_

STARTED \_\_\_\_\_

LATITUDE \_\_\_\_\_

DATUM 255 ft. south of No. 1 post claim MR. 39477

COMPLETED \_\_\_\_\_

DEPARTURE \_\_\_\_\_

BEARING 360° Az.

ULTIMATE DEPTH 416

ELEVATION \_\_\_\_\_

DIP 40°

PROPOSED DEPTH \_\_\_\_\_

DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	COIN. COPPER	SLUDGE GOLD'S
0 - 24	CASING				
24-100	ANDESITE: Very dark green. Chloritized and evidence of considerable shearing. Up to 5% pyrite. Occasional bands up to 3 ft. wide containing iron formation.				
100-150	ANDESITE: Massive for the most part. Pyrite disseminated throughout 90% of section up to about 8%				
150-200	ANDESITE: Generally massive with 5 ft. sections of chloritized and sheared material. Iron formation slight, some pyrite sections Quartz vein from 157-158½, Sample Chalcopyrite section from	3-1 3-2 3-3	1.5 1.5 2.0	0.14 --- 0.10	Au. nil.
200-300	ANDESITE: Generally massive with few small 2-5 ft. sections of chloritized and sheared material Sections of iron formation				



Ref: Self-Potential Plan  
Dated Nov. 25, 1965

MONTREAL RIVER

Post No. 1, claim  
MR. 39477

DDH 3. 360° Az.  
40° dip  
416 ft. long

CLAIM MR. 39477

XL 19

XL 20

XL 27

A N

DDH 1. 180° Az.,  
40° dip  
305 ft. long

DDH 2. 180° Az.  
38° dip, 280 ft. long

17+00 N 900' 17+00N  
PIT No. 1 (8' X 3' X 5' deep)  
PIT No. 2 (10' X 4' X 8' Deep)

DRILL LOCATIONS

NORTH EXPO MINES LIMITED

CAIRO TOWNSHIP, MATACHEWAN AREA, ONTARIO

G.L. Kirwan, B.Sc.



CERTIFICATE

I, Gerald L. Kirwan of the city of Toronto in the Province of Ontario, hereby certify as follows:

1. That I am a graduate of Carleton University, B.Sc., 1957, and that I have practised my profession continuously since graduation.
2. That I am a geologist with offices at 40 Axsmith Cres., Willowdale, and 160 Bay St., Toronto, Ont.
3. That I am a Fellow of the Geological Association of Canada.
4. That I have no direct or indirect interest, present or expectant, in the claims forming the property of North Expo Mines Ltd. or in the shares or securities of this company.
5. That the accompanying report has been prepared by myself and is based on supervision of work done by Rosmar Corp. Ltd. as well as that of North Expo Mines Ltd.

Dated at Toronto, Ontario, this 22nd day of April, 1966



G.L. Kirwan



ONTARIO

THE MINING ACT REP



41P15NE8361 19 CAIRO

30884

900

To the Recorder of Montreal River Mining Division

I, George Sunialoa name of Recorded Holder J-5034 Miner's Licence

Matachewan, Ont. Post Office Address

do hereby report the performance of 1,001 days of diamond drilling type of work

not before reported to be applied on the following contiguous claims

Table with 6 columns: Claim No., Days, Claim No., Days, Claim No., Days. Contains entries for MR.30884, 37915, 37916, 37917, 39476, 39477 and MR.40562, 40563, 40564, 40565, 41675.

All the work was performed on Mining Claim (s) MR. 39477 (In the case of geological and/or geophysical survey (s) where more than 18 claims are involved attach a schedule)

READ CAREFULLY: THE FOLLOWING INFORMATION IS REQUIRED BY THE MINING RECORDER.

For Manual Work, Stripping or Opening up of Mines, Sinking Shafts or Other Actual Mining Operations - Names and addresses of the men who performed the work and the dates and hours of their employment.

For Diamond and other Core Drilling - Footage, No. and angle of holes and diameter of core. Name and address of owner or operator of drill. Dates when drilling was done. Signed core log and sketch in duplicate.

For Compressed Air or Other Power Driven or Mechanical Equipment

Type of drill or equipment. Names and addresses of men engaged in operating equipment and the dates and hours of their employment.

For Power Stripping - Type of equipment. Name and address of owner or operator. Amount expended. Dates on which work was done. Proof of actual cost must be submitted within 30 days of recording.

With each of the above types of work sketches are required to show the location and extent of the work in relation to the nearest claim post. In the case of diamond or other core drilling the sketch must be submitted in duplicate.

For Geological and Geophysical Survey - The names and addresses of men employed as well as dates. Type of instrument used in the case of geophysical survey. Reports and maps in duplicate must be filed with the Minister within 60 days of recording.

For Land Survey - the name and address of Ontario Land surveyor.

The Required Information is as Follows: (Attach a list if this space is insufficient)

(see accompanying report) Total footage: 1,001. No. of holes: 3

- DDH 1, dir. 180° Az., 40° dip, 305 ft. long.
DDH 2, dir. 180° Az., 38° dip, 280 ft. long.
DDH 3, dir. 360° Az., 40° dip, 416 ft. long.

Diameter: Axt core (1 1/8 inch diam.)

DRILLER: Continental Drilling Co. Ltd., Val d'Or, P.Q.

DRILLED: March 14-April 5, 1966

Date April 25, 1966

Signature of Recorded Holder or Agent

The Mining Act Certificate Verifying Report of Work

I, G.L. Kirwan 40 Axsmith Cres., Willowdale, Ont. (Post Office Address)

hereby certify:

- 1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed here-to, having performed the work or witnessed same during and/or after its completion.
2. That the annexed report is true.

Dated April 25, 1966

Signature

THE PENALTY FOR MAKING A FALSE STATEMENT IN THIS REPORT AND/OR CERTIFICATE IS \$500. OR SIX MONTHS IMPRISONMENT OR BOTH

Powe

Lower Macachewan

St. Montreal

Cameroon

Moynour

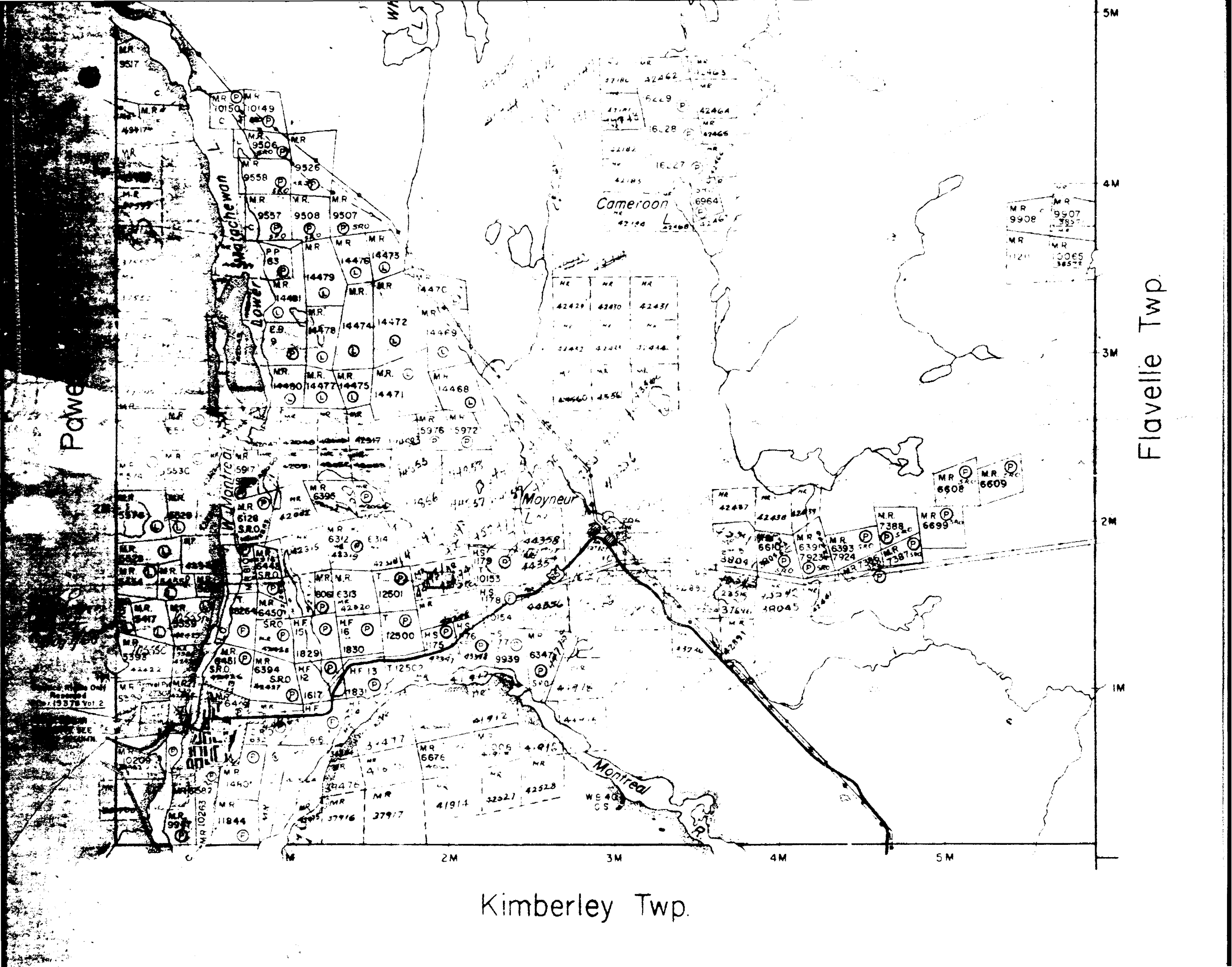
Montreal

Flavelle Twp.

5M  
4M  
3M  
2M  
1M

2M 3M 4M 5M

Kimberley Twp.



1937 Vol. 2

WB 40  
CS

MR	MR
9908	9907
MR	MR
1020	10065
	36572

MR	MR
6608	6609

MR	MR
7388	6699

MR	MR	MR
6610	6391	6393
7923	7924	

MR	MR	MR
42487	42438	42437

MR	MR	MR
42429	42430	42431
MR	MR	MR
42442	42443	42444
MR	MR	MR
42460	42456	

MR	MR
10150	10149

MR	MR
9506	
9558	9526

MR	MR	MR
9557	9508	9507

MR	MR	MR
14476	14473	

MR	MR	MR
14479		

MR	MR	MR
14481		

MR	MR	MR
14478	14474	14472

MR	MR	MR	MR
14470	14469	14468	

MR	MR	MR	MR
14470	14477	14475	14471

MR	MR	MR	MR
5976	5972		

MR	MR	MR	MR
6395			

MR	MR	MR	MR
6128	6312	6314	
SR	423.9		

MR	MR	MR	MR
6448	6449	6450	

MR	MR	MR	MR
6450	606	6313	12501
SR	423.9		

MR	MR	MR	MR
6450	18291	1830	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		

MR	MR	MR	MR
6450	1617	1831	12500
SR	423.9		